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KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER	
ROBINSON, CHANCITY N	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,761	MORI ET AL.	
	Examiner	Art Unit	
	CHANCEITY N. ROBINSON	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2010*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-28* is/are rejected.

7)☒ Claim(s) *11, 12, 17 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/03/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action mailed on 06/03/2010 is persuasive. Therefore, the finality is withdrawn.

2. Claims 1 and 3-28 are presented for prosecution.

Specification

3. The disclosure is objected to because of the following informalities: "Disclisure of the invention" on page 10 of the specification submitted on 02/10/2006 is misspelled.

Appropriate correction is required.

Claim Objections

4. Claims 11, 12, 17 and 20 are objected to because of the following informalities: the instant claims of 11 and 17 recite "...each measurement part:." . The period, ".", after the colon ":" needs to be deleted. Also, the instant claims of 12 and 20 recite "...five measurement parts:." . The period, ".", after the colon ":" needs to be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 3-12, 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is a color correcting dye or an UV/Visible absorber, which absorbs in a wavelength range of 450 nm to 650 nm, is critical or essential to the practice of the invention. Instant claim 1 requires an UV/Visible absorber or color correcting dye, which absorbs in a wavelength range of 450 nm to 650 nm, because the near-infrared film

would not be able to have a light transmittance of not lower than 55% in a range of 450 nm to 650 nm in wavelength as recited in instant claim 8 or have a light transmittance of 10% to 60% in a range of 550 nm to 600 nm in a wavelength as recited in instant claim 9.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 3, 4, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason (US 4,950,052) and further in view of Long et al. (US 5,079,214).

Regarding claims 1, 3, 4, 9 and 13, Kuwabara discloses a near infrared absorption material comprising: a transparent substrate, and at least a transparent resin layer formed thereon, containing a near infrared absorption dye (800 to 1200 nm) and a dye selectively absorbing a light of 550 to 630 nm wavelength region (abstract) .Kuwabara discloses a resin is provided on a

transparent substrate film [0026-0027]. Kuwabara discloses the near infrared absorbing dye comprises an aromatic diimmonium salt type compound [0035 & 0038]. Kuwabara discloses the light transmittance of 10% to 60% in a range of 550 nm to 600 nm in wavelength [0052], and a light transmittance of not higher than 20% in a range of 820 nm in a wavelength to 1100 nm in a wavelength [0037]. Further, Kuwabara discloses a coating solution containing near-infrared dye, resin, and organic solvent on a transparent substrate film, followed by drying (heating) to form a near-infrared absorption layer [0026, 0053-0057 and examples].

Kuwabara does not disclose a composition containing surfactant having an HLB in a range of 2 to 12 is contained at 0.01% to 2.0% by mass in the composition. However, Fergason et al. disclose a near-absorbing film comprising a containment medium (column 1, lines 6-10 and abstract). The film substrate is transparent (column 2, lines 11-24 and column 3, lines 53-64). The containment film contains a surfactant with a HLB of 12 (column 5, line 40- column 6, line 19) and a pleochroic dye and/or cyanine dye (column 9, lines 26-38). Also, Fergason et al. recognize that the amount of surfactant used for emulsifying the liquid crystal material should be the minimal amount needed to stabilize the light crystal film and control the liquid crystal size. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify/optimize the surfactant to yield desired amount to be used in the composition. Discovery of optimum value of result effective variable in known process is ordinarily within skill of art. *In re Boesch*, CCPA 1980, 617 F.2d 272, 205 USPQ215. Further, Examiner notes that the pleochroic dye absorbs in the infrared or near infrared energy (region; 800 nm to 1200 nm) as evidenced by Fergason (US 5,319,481) in column 26, lines 34-38. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to include surfactant having an HLB in a range of 12 is contained at 0.01% to 2.0% by mass in the composition of Kuwabara, because Fergason et al. teach the surfactant enables the stability and durability of the film.

Further regarding claim 1, neither Kuwabara nor Fergason et al. explicitly disclose the surfactant is a silicone type surfactant or fluorine type surfactant. However, Fergason et al. recognize the absorption film contains a surfactant with a HLB of 12 (column 5, line 40- column 6, line 19) and the HLB coefficient reflects the solubility of a substance in oil and water. Long et al. disclose a color filter element (film; abstract) comprising a transparent support (glass support; column 6, lines 17-21) and a dye-receiving layer (column 6, lines 22-68), which contains a cyanine infrared absorbing dye (column 7, lines 22-51) and a silicone fluid surfactant (DC-510; column 9, lines 1-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a silicon fluid surfactant as the localized surfactant of Kuwabara in view of Fergason et al. because Long et al. teach the silicon surfactant improves the surface properties of the filter (see examples).

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Sato et al. (JP 2004-202899).

Regarding claim 5, Kuwabara in view of Fergason et al. discloses the film as supplied to claim 1 above, but fails to disclose a transparent substrate film made of a laminated film made of at least three layers or more or an ultraviolet layer. Sato et al. disclose a similar transparent, laminating polyester film that contains that is made of three layers (paragraph [0008]), and an

ultraviolet ray absorbent (paragraph [0014]) is provided within the inner layer (paragraphs [0008] and [0013]). The laminated film will have the capacity to cut-off ultraviolet rays so that decomposition will not take place during film production (paragraph [0004]). It would have been obvious to one of ordinary skill in the art to use the transparent film of Sato et al. in place of the transparent substrate film of Kuwabara to further enhance the capacity to cut-off ultraviolet rays in order to prevent the decomposition of the film during its production.

11. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Taki et al. (US 6,703,138).

With respect to claims 6 and 7, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above as well as an resin intermediate layer between the image forming a layer and substrate (paragraph [0195]), but fail to disclose the type of resin and acid value of that resin. Also, Kuwabara discloses the near infrared absorption material can be used for producing a filter [0057 and 0065]. However, Taki et al. disclose an adhesive laminated film that includes a acrylic resin with acid value of at least 200 eq./t along with polyester resins, or a copolymer (including block and graft copolymers - column 4, lines 60-61) of two or more of these resins and contains at least one monomer that comprises an acid anhydride containing a double bond (column 5, lines 22-29). If the acid value is lower than 200 eq./t, the acrylic resin is not sufficiently water soluble or water-dispersible causing polar groups to remain unchanged therefore lowering the water resistance of the coating layer (column 5, lines 5-14). Further, the use of graft polymers has been proposed to improve the adhesion of polyester films (column 1,

lines 31-38). It would be obvious to one of ordinary skill in the art to include adhesive layer of Taki et al. in place of intermediate layer of the image forming material of Kuwabara in view of Fergason et al. to further enhance water resistance and the adhesion of the coating layer.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Oya (US 2003/0186040).

With respect to claim 8, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above, but fails to disclose the light transmission of the near-infrared absorption film. Oya discloses a similar near-infrared ray film that comprises a near-infrared light absorber (paragraph [0038]), glass substrate (paragraph [0170)], a resin (paragraph [0044]), and surfactant (paragraph [0145]) wherein the film has a total transmittance of 60% or more between the wavelengths of 400 to 650 nm (paragraph [0034]) and transmittances at 850 nm and 950 nm to 20% or less (paragraphs [0027] and [0036]). When total transmittance is lower than 60% of wavelengths between 400 to 600 nm, the entire image becomes dark and power consumption for achieving brightness increases (paragraph [0034]). When the transmittances for near infrared rays having wavelengths of 850 nm and 950 nm are higher than 20%, near infrared rays radiated from the plasma display may not be shielded completely, whereby the peripheral equipment of the plasma display may malfunction (paragraph [0027]). It would be obvious to on of ordinary skill in the art to use a film having the light transmittance properties of the near-infrared film of Oya in the near-infrared film of Kuwabara in view of Fergason et al. to prevent the production of dark images and possible malfunction of the peripheral equipment of the plasma display.

13. Claims 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Moriwaki et al. (US 2003/0021935).

With respect to claims 10 and 24, Kuwabara in view of Fergason et al. disclose the film as supplied to claim 1 above, but fails to disclose an anti-reflective layer. Moriwaki et al disclose a laminated film that comprises a resin [0049], colorant [0046] and [0047] layer provided on a substrate film [0060] wherein an antireflection layer is formed on one side of the substrate and where the colored adhesive (colorant layer) is formed on the other side of the substrate [0060]. The laminated film has the colorant layer formed on the opposite side to the antireflective layer (paragraph [0061]). Further, the laminated film is used so that the antireflection layer is on the observer side, and the colorant layer (or the colored adhesive layer) is on the display device (such as cathode ray tube) side (paragraph [0061]). The use of an antireflective layer can prevent reflection on the surface of the panel glass and make the brightness of an image more uniform regarding production of CRT (paragraph [0007]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an antireflective layer as disclosed by Moriwaki et al. within the film of Kuwabara in view of Fergason et al. to prevent the reflection of the surface of the panel glass of a CRT display and provide a more uniform image.

14. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kumano et al. (JP 2003-127310).

With respect to claims 11 and 12, Kuwabara in view of Fergason et al. disclose the film as applied to claim 1 above, but fails to disclose a near-infrared film roll.

The claim language of instant claim 11 that recites, " …wherein a long film wound up in this roll has a maximum of a color difference ΔE (MD) measured by a following measuring method (A) of 2.0 or smaller:

(A) in a measurement of a color tone of the film, in a longitudinal direction (MD) of the film, letting one end of a steady region where film physical properties are stabilized to be a first end, and letting the other end to be a second end, first measurement is carried out within 2 m on an inner side of the first end, and final measurement is carried out within 2 m on an inner side of the second end and, at the same time, measurement is carried out every about 10 m from the first measurement part, and a color difference ΔE (MD) defined by a following equation is calculated at each measurement part:

$$\Delta E\ (MD) = [(L_a-L_m)^2 + (a_a-a_m)^2 + (b_a-b_m)^2]^{1/2},$$

wherein L_m, a_m, and b_m mean color tones L, a, and b at each measurement part, respectively, and L_a, a_a, and b_a mean averages of color tones L, a, and b, respectively, at all measurement parts " is an intended use of the near-infrared absorption film . *In re Leshin*, 125 USPQ 416, 417-418; 277 F2d 197 (CCPA 1960). Therefore, the limitation is not given any patentable weight.

The claim language of instant claim 12 that recites, " …wherein a long film wound up in this roll has a maximum of a color difference ΔE (TD) measured by a following measuring method (B) of 1.0 or smaller:

(B) in a measurement of a color tone of the film, in a width direction (TD) of the film, letting one end of a steady region where film physical properties are stabilized to be a first end,

and letting the other end to be a second end, first measurement is carried out within 0.1 m on an inner side of the first end, and final measurement is carried out within 0.1 m on an inner side of the second end and, at the same time, measurement is carried out at three parts at an approximately equal intervals between the first measurement part and the final measurement part, and a color difference ΔE (TD) defined by a following equation is calculated at these five measurement parts:

$$\Delta E\,(TD) = [(L_a-L_m)^2 + (a_a-a_m)^2 + (b_a-b_m)^2]^{1/2},$$

wherein L_m, a_m, and b_m mean color tones L, a, and b at each measurement part, respectively, and L_a, a_a, and b_a mean averages of color tones L, a, and b, respectively, at all measurement parts " is an intended use of the near-infrared absorption film . *In re Leshin*, 125 USPQ 416, 417-418; 277 F2d 197 (CCPA 1960). Therefore, the limitation is not given any patentable weight.

However, Kumano et al. disclose a process for preparing a cavity-containing polyester-based film roll in which the total color difference (E) in the film roll is 1.0 (paragraph [0020]) or less and wherein the color difference is a measurement incorporating the average color tone value, L (paragraph 0020). If the color difference is too large, then the color tone fluctuation within the lot of a film roll will become large therefore spoiling the design nature of the patterned printing layer and the stability of the film (paragraph [0020]). To make the color difference smaller, it is important to decrease the segregation of the material inside to receive proper distribution of the color pigment (paragraph [0021]). It is the examiner's position that the color difference can be obtained using any said length or width because stretching and widening film can be performed to obtain any desired color difference. Also, color tone is also dependent upon the amount of color pigment within the film that will also affect the color difference. It

would have been obvious to one of ordinary skill within the art at the time of the invention to provide a film roll comprising the image forming material of Kuwabara in view of Inno et al. and having a color difference of 1.0 or lower by measuring the color tone of the film as taught by Kumano et al. to preserve the design nature of the patterned printing layer and the stability of the film.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kubo (US 6,770,430).

With respect to claim 14, Kuwabara in view of Fergason et al. disclose the film (image forming material) as applied to claim 13 above, but fail to disclose a multi-stage drying after coating a film on a substrate. Kubo discloses a thermally processed image forming material wherein a coating of material is applied to a substrate and dried with from 25 to 40 degrees C for (at a constant drying rate) and then heated again to 80 degrees C (paragraph [0204]). For preventing uneven processing due to dimensional changes, it is preferred to heat the material the material at 80-115 degrees C for 5 seconds then heating the material from 110 to 140 degree to produce the image (multi-stage heating) (column 29, lines 35-39). It would have been obvious to one of ordinary skill within the art at the time of the invention to apply a multi-stage heating process as disclosed by Kubo et al. to the image forming material of Kuwabara in view of Fergason et al. to prevent uneven processing in the production of an image.

16. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view

of Long et al. (US 5,079,214) as applied to claims 1-4, 9 and 13 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claims 15 and 16, Kuwabara in view of Fergason et al. disclose the film (image forming material) as applied to claim 13 above but fail to disclose the use of reverse gravure method in applying forming material. Ogawa et al. disclose a method and apparatus for coating a thin film comprising a reverse gravure coating type roll (paragraph [0033] and Figure 1) wherein the diameter of the gravure roll (1)in Figure 1 not smaller than 15mm (paragraph [0091]). In the case when the diameter of the gravure roll falls below 15 mm, when the doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material Kuwabara in view of Fergason et al. to prevent unevenness of the coating to a substrate.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above, and further in view of Kumano et al. (JP 2003-127310).

The claim language of instant claim 17 that recites, " …wherein a long film wound up in this roll has a maximum of a color difference ΔE (MD) measured by a following measuring method (A) of 2.0 or smaller:

(A) in a measurement of a color tone of the film, in a longitudinal direction (MD) of the film, letting one end of a steady region where film physical properties are stabilized to be a first

end, and letting the other end to be a second end, first measurement is carried out within 2 m on an inner side of the first end, and final measurement is carried out within 2 m on an inner side of the second end and, at the same time, measurement is carried out every about 10 m from the first measurement part, and a color difference ΔE (MD) defined by a following equation is calculated at each measurement part:

$$\Delta E\ (MD) = [(L_a-L_m)^2 + (a_a-a_m)^2 + (b_a-b_m)^2]^{1/2},$$

wherein L_m, a_m, and b_m mean color tones L, a, and b at each measurement part, respectively, and L_a, a_a, and b_a mean averages of color tones L, a, and b, respectively, at all measurement parts " is an intended use of the near-infrared absorption film . *In re Leshin*, 125 USPQ 416, 417-418; 277 F2d 197 (CCPA 1960). Therefore, the limitation is not given any patentable weight.

However, Kuwabara in view of Fergason et al. disclose a process for preparing a film roll that has a maximum color difference of 1.0 or smaller. Kumano et al. disclose the process for preparing a cavity-containing polyester- based film roll in which the total color difference (E) in the film roll is 1.0 (paragraph [0020]) or less and wherein the color difference is a measurement incorporating the average color tone value, L (paragraph 0020). If the color difference is too large, than the color tone fluctuation within the lot of a film roll will become large therefore spoiling the design nature of the patterned printing layer and the stability of the film (paragraph [0020]). To make the color difference smaller, it is important to decrease the segregation of the material inside to receive proper distribution of the color pigment (paragraph [0021]). It is the examiner's position that the color difference can be obtained using any said length or width because stretching and widening film can be performed to obtain any desired color difference. Also, color tone is also dependent upon the amount of color pigment within the film that will

also affect the color difference. It would have been obvious to one of ordinary skill within the art at the time of the invention to prepare a film roll comprising the image forming material of Kuwabara in view of Fergason et al. wherein the film has a color difference of 1.0 or lower by measuring the color tone of the film as taught by Kumano et al. to preserve the design nature of the patterned printing layer and the stability of the film.

18. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claim 17 above, and further in view of Iwasaki et al. (US 4,948,635)

With respect to claim 18, Kuwabara in view of Fergason et al. disclose the film as applied to claim 1 above along with drying of the film (paragraph [0219]) but fails to disclose the use of a gravure apparatus in applying coating solution. Iwasaki et al. disclose a gravure coating device and method wherein the velocity of the gravure roll and of the web affects the thickness of the application of the coating agent (column 12, lines 30-35 and FIG. 9). As the velocity increase, the thickness of the coating agent will increase (See FIG. 9). Iwasaki also teaches that in prior art that wrinkles are produced on the surface side of the web (film) when the web is thin (column 2, lines 5-10) from the clamping force of the rolls (column 2, lines 5-10). It is the position of the examiner that one would adjust the rotational rate and running rate of the film by increasing the thickness of the film in order achieve smoothness and prevent wrinkles from occurring in the film. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a gravure coating apparatus as disclosed by Iwasaki et al. in applying the film of

Kuwabara in view of Fergason et al. to prevent wrinkling of the film on its surface side as well as to increase film thickness to achieve smoothness in film.

19. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claim 17 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claim 19, Kuwabara in view of Fergason et al. disclose the film as applied to claim 17 above along with drying of the film (paragraph [0219]). However, Kuwabara in view of Fergason et al. fail to disclose the use of a gravure coating apparatus in preparing a film roll. Ogawa et al. disclose a method and apparatus for coating a thin film comprising a reverse gravure coating type roll (paragraph [0033] and Figure 1) wherein apparatus (100) has a gravure roll (1) is made of ceramic (paragraph [0098]) and a doctor blade (3) that is capable of scrapping off the excess coating solution (paragraph [0099]) by coming in contact with the gravure roll (paragraph [0100]). The excess coating solution is recycled to the coating solution supply (61) by the coating solution recovery portion 73 (paragraph [0057]). In the case that the diameter of the gravure roll is too low, when the doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material Kuwabara in view of Fergason et al. to prevent unevenness of the coating.

20. Claims 20 -21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1 and 13 above, and further in view of Iwasaki et al. (US 4,948,635).

The claim language of instant claim 20 that recites, " …wherein a long film wound up in this roll has a maximum of a color difference ΔE (TD) measured by a following measuring method (B) of 1.0 or smaller:

(B) in a measurement of a color tone of the film, in a width direction (TD) of the film, letting one end of a steady region where film physical properties are stabilized to be a first end, and letting the other end to be a second end, first measurement is carried out within 0.1 m on an inner side of the first end, and final measurement is carried out within 0.1 m on an inner side of the second end and, at the same time, measurement is carried out at three parts at an approximately equal intervals between the first measurement part and the final measurement part, and a color difference ΔE (TD) defined by a following equation is calculated at these five measurement parts:

$$\Delta E\ (TD) = [(L_a-L_m)^2 + (a_a-a_m)^2 + (b_a-b_m)^2]^{1/2},$$

wherein L_m, a_m, and b_m mean color tones L, a, and b at each measurement part, respectively, and L_a, a_a, and b_a mean averages of color tones L, a, and b, respectively, at all measurement parts " is an intended use of the near-infrared absorption film . *In re Leshin*, 125 USPQ 416, 417-418; 277 F2d 197 (CCPA 1960). Therefore, the limitation is not given any patentable weight.

Further regards to claim 20 and 21, Kuwabara in view of Fergason et al. disclose the film as applied to claims 1 and 13 above. However, Kuwabara in view of Fergason et al. fail to

disclose the use of a gravure coating apparatus and method of in preparing a film roll. Iwasaki et al. disclose a gravure coating device and method wherein the velocity of the gravure roll and of the web affects the thickness of the application of the coating agent (column 12, lines 30-35 and FIG. 9). As the velocity increase, the thickness of the coating agent will increase (FIG. 9). Iwasaki also teaches that in prior art that wrinkles are produced on the surface side of the web (film) when the web is thin (column 2, lines 5-10) from the clamping force of the rolls (column 2, lines 5-10). It is the position of the examiner that one would adjust the rotational rate and running rate of the film by increasing the thickness of the film in order achieve smoothness and prevent wrinkles from occurring in the film. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a gravure coating apparatus as disclosed by Iwasaki et al. in applying the film of Kuwabara in view of Fergason et al. to prevent wrinkling of the film on its surface side as well as to increase film thickness to achieve smoothness in film.

21. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claim 20 above, and further in view of Ogawa et al. (US 2004/0071883).

With respect to claim 22, Kuwabara in view of Fergason et al. disclose the process for preparing a near infrared film as applied to claim 20 above along with drying of the film (paragraph [0219]). However, Kuwabara in view of Fergason et al. fail to disclose the use of a gravure coating apparatus in preparing a film roll. Ogawa et al. disclose a method and apparatus for coating a thin film comprising a reverse gravure coating type roll (paragraph [0033] and

Figure 1) wherein apparatus (100) has a gravure roll (1) is made of ceramic (paragraph [0098]) and a doctor blade (3) that is capable of scrapping off the excess coating solution (paragraph [0099]) by coming in contact with the gravure roll (paragraph [0100]). The excess coating solution is recycled to the coating solution supply (61) by the coating solution recovery portion 73 (paragraph [0057]). In the case that the diameter of the gravure roll is too low, when the doctor blade (3) is pressed against the gravure roll (1), the roll is bent so much causing unevenness of coating due to the rotation of the roll (paragraph [0091]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a reverse gravure method with a diameter of 15 mm or more as disclosed within Ogawa et al. in applying the image forming material of Kuwabara in view of Fergason et al. to prevent unevenness of the coating.

22. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214)as applied to claim 20 above, and further in view of Kubo (US 6,770,430).

With respect to claim 23, Kuwabara in view of Fergason et al. disclose the process for preparing a near infrared film as applied to claim 20 above along with drying of the film (paragraph [0219]) however, Kuwabara in view of Fergason et al. fail to disclose a multi-stage drying process after coating a film on a substrate. Kubo discloses a thermally processed image forming material wherein a coating of material is applied to a substrate and dried with from 25 to 40 degrees C for (at a constant drying rate) and then heated again to 80 degrees C (paragraph [0204]). For preventing uneven processing due to dimensional changes, it is preferred to heat the material the material at 80-115 degrees C for 5 seconds then heating the material from 110 to

140 degree to produce the image (multi-stage heating) (column 29, lines 35-39). It would have been obvious to on of ordinary skill within the art at the time of the invention to apply a multi-stage heating process as disclosed by Kubo et al. to the image forming material of Kuwabara in view of Fergason et al. to prevent uneven processing in the production of an image.

23. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claims 1, 3, 4, 9 and 13 above and further in view of Shouji et al. (US 5,691,838).

Regarding claim 26-27, Kuwabara in view of Fergason et al. do not explicitly disclose the organic solvent comprises a ketone in the amount in the range of 30% to 80%. However, Shouji et al. disclose an infrared-blocking optical filter comprising a transparent film substrate (abstract). Shouji et al. disclose a coating solution comprises a ketone in the range of 30% to 80 % as a dispersing medium. See column 7, lines 54-57 and col. 11, lines 1-5. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a ketone to the coating solution of Kuwabara in view of Fergason et al. because Shouji et al. disclose the ketone is used as a dispersing medium.

24. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara (US 2002/0127395 A1) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214) as applied to claim 1 above, and further in view of Hanada et al. (US 6,734,946).

Regarding claim 25, Kuwabara in view of Fergason et al. do not explicitly disclose a near-absorption layer comprises a remaining solvent, and the concentration of the remaining solvent in the near infrared ray absorption layer is in the range of 0.01 to 5% by mass. However,

Hanada et al. disclose a liquid crystal display component and transparent conduction substrate (abstract). Hanada et al. disclose a coated film with a remaining solvent in a concentration of 0.08% allowing for balance and tension strength. See example 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a remaining solvent in the film of Kuwabara in view of Fergason et al., because Hanada et al. disclose the remaining solvent allows for balance and tension strength.

Response to Arguments

25. Applicant's arguments with respect to claims 1 and 3-28 have been considered but are moot in view of the new ground(s) of rejection. However, Kuwabara and Fergason et al. continue to disclose a near-absorption film as recited in claims 1-28. Therefore, a new 103(a) rejection is made in view of Kuwabara and Fergason et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANCEITY N. ROBINSON whose telephone number is (571)270-3786. The examiner can normally be reached on Monday to Friday (with every other Friday off): 9:00 am-6:00 pm eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Chanceity N Robinson/
Examiner, Art Unit 1795

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795